DOCUMENT RESUME

ED 243 736 SO 015 542

AUTHOR Kobus, Doni Kwolek
TITLE A Conceptualization of Educational Theory Relevant to a Community-Based Global Education Approach.
PUB DATE May 83
NOTE 56p.; Paper presented at the Working Conference on Using the Local Community in Global Education (Columbus, OH, May 1983).
PUB TYPE Information Analyses (070) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Community Study; Concept Formation; Concept Teaching; *Curriculum Development; Developmental Stages; Ecological Factors; Educational Objectives; *Educational Theories; Elementary Secondary Education; Experiential Learning; *Global Approach; Learning Theories; Models; *Relevance (Education); *Research Utilization

ABSTRACT

The community-based approach to global education has the greatest potential for involving students in experiential learning that will involve the total nature of the child--cognitive, affective, and psychomotor. This approach also has the greatest potential to help students achieve the educational objectives based on the Tyler-Taba rationale of the ecological relationship between the learner, society, and subject matter. Using the community as a source of educational objectives was recommended by several major educational reports in the 1970's, based on the theory of meaningful learning. Key assumptions derived from these reports include the following. The curriculum should be activity-oriented and teach concepts generic to the field. Basic concepts can be operationalized as process concepts, e.g., "cooperating" in cooperative learning strategies, "perspective-taking" through the use of cooperative classroom goal structures. Concepts can be analyzed to determine the characteristics at the four successive levels of concept learning according to Klausmeier's model. These characteristics can then be matched to curricular activities to develop a teaching/learning hierarchical model. (RM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

A Conceptualization of Educational Theory Relevant to a Community-Based Global Education Approach

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Doni Kwolek Kobus
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED243736

A Paper for the WORKING CONFERENCE ON USING THE LOCAL COMMUNITY IN GLOBAL EDUCATION

Ohio State University
The Mershon Center
Columbus, Ohio
May, 1983

Doni Kwolek Kobus

University of the Pacific
Stockton, California, 1983

SO 015 542

Introduction

The news of the world continues to impinge upon our essentially provincial, chauvinistic outlook at an accelerating rate. The impact on our national psyche of international events we no longer control or strongly influence has made a fight or flight response unacceptable in the eyes of many Americans. The growing peace movement in various nations typifies the need the ordinary individual has to attempt to influence national and international policy. John Naisbett, in his book, Megatrends (1982) cites additional evidence of the "megatrend" toward grassroots expression of the need and desire to influence those who make decisions for us.

The back-to-basics movement in education and tests for basic competencies for students and teachers are an expression of the community need to exert pressure to improve educational outcomes. Concurrently, the growth of the movement for confluent education, the integration of the cognitive and affective domains of learning and perhaps the antithesis of "basic" education as it is conceived by the public, is accelerating. Others are attempting to take control over their lives through a kind of passive resistance. They move their children to private schools, rather than support change in the public system.

In spite of this "back-to-basics" movement, global

education is alive and well. Only a year ago, lay people and educators alike needed an explanation of and rationale for global education. Today, it is self-evident that this innovation is not a fad. The question has become one of "how," particularly in the face of shrinking school budgets and overburdened, often demoralized school district staffs and teachers.

The Schooling Process

The "how" continues to be a dominant question, especially when we consider the recently reported outcomes of the national study, "A Study of Schooling" conducted by John Goodlad and his colleagues. This in-depth ecological perspective of 1,016 classrooms in 38 elementary, junior high and senior high schools helps explain why some seemingly endemic problems of schooling have remained impervious to change. Goodlad (1983, p. 466) writes:

> Committed to the factory model without feeling the need to validate it, our reflex response to school problems as citizens and educators is to increase pressure through mandates, testing requirements, new standards for college entrance, and the like. We rarely look at what lies between the input valve and the output spigot. . . . Strategies for school improvement that ignore these interactions and the rationales governing them are unlikely to

have more than minimal impact on the culture of schools.

The study consistently revealed a picture of static instructional strategies with the teacher very much in control in virtually all school sites.

> Teachers appear to teach within a very limited repertoire of pedagogical alternatives emphasizing their own talk and the monitoring of seatwork . . . the prevailing instructional group is the total class; small-group activity is rare. . . . Classroom contingencies encourage and support minimal movement, minimal student-to-student or student-to-teacher interaction, and low non-intimate affect (Goodlad, 1983, p. 467).

Goodlad noted the uniformity of a textbook-centered, grade-level organized and subject-centered curriculum. This standardized curriculum also required a limited kind of student response, primarily listening, reading, and writing short responses to text questions. They rarely engaged in planning or initiating activities, reading anything of any length or in creating their own products. They listened and worked alone most of the time.

Even in the social sciences these conditions prevailed, in spite of its potential for high human interest.

The teachers revealed a priority of student recall of information rather than problem-solving, inquiry, etc., even though they listed other kinds of intended learnings for the social sciences.

In analyzing the potential reasons for the "flatness" and narrowness of the curriculum, Goodlad concluded that teachers teach the way that they were themselves taught, in spite of the efforts of the best teacher education programs. They are aware of and trained in other teaching strategies, but they do not implement them. Instead, out of the 150 minutes of talk in an average senior high school day, the teacher carried on 143 of them.

Additionally, teachers respond to the message they hear to maintain the status quo. This message consists of the importance of teaching narrowly defined academic content--"the lowest common denominator--" in spite of the comprehensive goal statements of the state and local educational agencies. The message of minimum competencies from these same agencies comes through "loud and clear." Goodlad suggested that, "We will seek to realign our practices with more relevant theories only if we are convinced that fundamental redirection is necessary" (1983, p. 470). He did, however, offer some hope in his recognition that a growing body of evidence indicated that teachers, when given the support, encouragement and

protection, respond eagerly to alternative methods that reflect their broader expectations for the schooling process.

Goodlad recommended, not only that teachers be given this support from competent principals exercising leadership and others outside the schools, but that they engage in long-range planning to articulate and implement goals for the educational process. He further recommended that teachers "must promote a classroom ethos in which students are responsible not only for their own learning but also for that of their classmates" (1983, p. 558).

It can be seen from the previous discussion that a change agent or agency must be knowledgeable about the prevalent condition of the schooling process and realistic about the pitfalls of implementing innovation, however modest and well-intentioned. Against this backdrop, the field of global education, and, specifically that approach which is community-based, will be considered.

The Problem of Definition and Analysis of Approaches

In addition to the considerations discussed above, a major problem within the developing field of global education is not one of building rationales, finding support and advocates, or developing exciting, teacher-tested curricular activities. It is one of defining and conceptualizing the field from an educational perspective,

rather than a political science or international studies perspective. This involves not only an understanding of the various approaches which have evolved within the field and criteria for distinguishing them, in spite of overlap, but also knowledge of educational theory.

There appear to be four basic approaches within the field for which "global education" is used as a generic term, in addition to being a designation for one of the four approaches. The four approaches are embodied in the following terms:

1) international education
2) global education
3) global perspectives education
4) community-based global education

International education is the designation for a more traditional and discrete body of knowledge about the world. Along with global education, it is assigned to the social sciences in precollegiate education. The model for this approach is derived from higher education and typically is based on the study of various geographical and cultural areas of the world. Global education incorporates this content, but views world areas as parts of larger, interacting interdependent systems expressed and studied through global issues.

A global perspectives approach, on the other hand, is

not based on implementing new courses or extensively redesigning curricular content. Rather it is based on the infusion and integration of emerging global concepts such as those of change, conflict, communication, and interdependence. Furthermore, global perspectives education deals with affective content in addition to stressing the knowledge and skills which students must acquire in order to develop a global perspective (King, Branson, and Condon, 1976).

The fourth approach, community-based global education or, "your community and the world," views the local community as a microcosm of the world and, through the identification and utilization of the international linkages within the community, attempts to infuse a global perspective into the schools. This approach has three distinct objectives related to developing citizenship skills based on the newly-emerging world paradigm. They are: "1) to make international affairs and problems appear more manageable, 2) to make channels of participation in world affairs appear more accessible and 3) to make things international generally appear to be more relevant to daily life (Woyach and Remy, 1982, p. 3)."

Even though the basic approaches are distinctly designated, this is not to imply that they are discretely separate in implementation. Quite the contrary, there is

considerable overlap, particularly with respect to the selected concepts recognized as basic to understanding the changing nature of the world.

The field, as a whole has been the focus of conceptualization by many of its leaders. Becker (1982, pp. 3-4) stated that what is needed is not so much to broaden knowledge, as to reinterpret it through an understanding of global systems.

Hanvey, among others, supported this view and asserted that interdependence is probably the most essential and basic concept within the curricular content of global education. He emphasized:

> The hallmark trait of the global approach seems to be the persistent attempt to show relationships, to show that problems ordinarily treated separately are in fact connected, to show that the individual is connected into larger biosocial systems and that this has implications for responsible personal choices and to show that our best understanding of complex issues comes from the application of interdisciplinary analysis (Hanvey, 1979, p. 9).

It would appear that an approach which 1) most directly and thoroughly embodies the concept of interdependence; 2) fits the individual learner into this conceptual model of interdependence; 3) emphasizes and gives

opportunity for personal practice of responsible decisions; and 4) views complex issues from an interdisciplinary perspective would meet Hanvey's broad conceptualization of the field.

It would also appear that a curriculum focused on the community has the potential of meeting all four of these criteria. This approach would provide the greatest opportunity for student involvement in immediately relevant curricular activities as opposed to abstract subject matter, the typical diet of the schools.

The local community approach has a specific goal of developing and activating citizenship education awareness and skills in children in the local community, awareness and skills that are imbedded in concepts which are generic to the global human experience and exemplified in the community. Conceptual learning occurs as students interact with these concepts in the classroom, the school, the family and the community.

In the community-based approach, the emphasis is on teaching/learning based on the child's own experience with concrete examples as opposed to abstract, and structured knowledge removed from the student's immediate perception. This forms a conceptual bridge for children to enable them to understand the events, processes, principles, and cultural and multi-national information of the larger world.

In the subject matter knowledge-based approach of international education and global education, the content has been derived from the structure of the knowledge of the field, potentially without direct relevance to the students' lives. It is true that global educators in the field would probably agree upon the importance of certain concepts, but without direct relevance to his or her life as an intermediate state of conceptual learning, the student would probably not readily recognize or accept this importance. An "eat your spinach" approach has never yet convinced a child that he or she should. With proper enticement by a creative teacher, the student may, in fact, participate eagerly. But one must ask the question if this is due to an active learning process promoted by creative teaching or to intrinsic motivation to participate and learn the content. In any event, actual integration of content into cognitive structures, may or may not occur. After discussing a recent book, Citizenship in an Age of Science, which advocates "issue specialization," Hanvey and Kinghorn noted the position of the author, Jon Miller that issue specialization must become a factor in citizenship education planning. Miller stated that students must first be convinced that an issue really matters. Then, students should be allowed to explore selected

interests on the basis of their own interest and choice, not those of the instructor (Hanvey and Kinghorn, 1982).

Educational Theory as the Basis for a Community-Based Approach to Global Education

It is critical to the developing field of global education that those responsible for the emerging approaches begin to delineate educational theory which supports that approach. The field must rely, not only on theory from the areas of political science and international studies, but on the nature of the schooling process, particularly as it relates to change, general educational theory and learning theory. A clearly articulated theory or theories will do much to advance the field.

This conceptualization of global education must take into account the setting for learning and a curricular model that is derived from educational theory. The danger of not attending to this level in the conceptualization of the field is that global education may then be seen as just another innovation and an "add-on" to the curriculum by teachers and administrators in a basically bureaucratic and self-perpetuating school system.

Educators and non-educators alike with special interests have attempted to impact change in the schools with innovative curricula. It is critical to present an

argument for a worthy "innovation," such as global education, not just on the basis of perceived needs outside the school and the learning process, but on the basis of improvement of the educational process and total curriculum as well. Even then, the impediments to implementing change in the schools will discourage the most zealous change agent.

Historically, educational theory has been the focus of our greatest educators. John Dewey stated:

> Theory is in the end the most practical of all things, because this widening of the range of attention beyond nearby purpose and desire eventually results in the creation of wider and farther-reaching purposes and enables us to use a much wider and deeper range of conditions and means than were expressed in the observations of primitive practical purposes (Dewey, 1929, p. 17).

Dewey, Tyler, Taba and others have contributed to a theoretical model for curriculum development. This theoretical model, now widely recognized as the Tyler-Taba rationale, is based on the interaction of instructional objectives from three sources: the learner, the society and the subject matter. Within this model, the process of curriculum development involves an ecological relationship

among four basic functions, identifying objectives, selecting the means for attainment of these objectives, organizing these means, and evaluating the outcomes. These four functions interact in a non-hierarchical fashion and must be firmly grounded in educational philosophy (Tanner and Tanner, 1980).

According to Dewey, it is critical that the three types of objectives also exist in an interdependent relationship in order that one does not dominate the others (Dewey, 1902, pp. 4-8). Reliance on the scholar-specialist for curriculum development has led to a fragmented curriculum which ignores the additional imperative of deriving objectives from the needs of the learner and from society.

> . . . the specialization and segmentation of knowledge have made the curriculum more remote from life at a time of a rising demand to make the curriculum more responsive to emerging societal needs and problems (Tanner and Tanner, 1980, p. 42).

The result has been an unbalanced curriculum.

The structure of knowledge approach to curriculum development in the disciplines based on this specialization of knowledge, emerged as a response to the pressures our nation was experiencing with regard to competing with

Russia in the new era of space exploration in the 1950's. Experts in various disciplines at the university level worked cooperatively to develop curriculum for pre-collegiate education. In 1971, ten years after the publication of Bruner's The Process of Education, he reflected upon the "excess of rationalism" which he had helped to inspire (Bruner, 1971, p. 18). He wrote:

> . . . in my view, through my perspective, the issues [now] would have to do with how one gives back initiative and a sense of potency, how one activates to tempt one to want to learn again. When that is accomplished, then curriculum becomes an issue again--curriculum not as a subject but as an approach to learning and using knowledge.

He went on to advocate that the immediate and compelling concerns of the student should be the focus of all his or her resources (Bruner, 1971, p. 20).

In elaborating on his rejection of the structure of knowledge approach to curriculum development and upon the teaching/learning process, Bruner wrote:

> A community is a powerful force for effective learning. Students, when encouraged, are tremendously helpful to each other. They are like a cell, a revolutionary cell. It is the cell in which mutual learning and instruction can occur, a unit

> within a classroom with its own sense of compassion and responsibility for its members.
>
> These were matters we did not do enough with at Woods Hole. We did not think about mutuality because we were stuck on the idea of curriculum--in spite of the fact that our laboratories and our very curriculum projects were set up rather like communes! (Bruner, 1971).

In spite of the change of heart of its most well-known theorist, the segmentation and specialization within the curriculum remain, along with individualization and subsequent isolation of the student.

Dewey's comprehensive notion of "community" and its relationship to pedagogical practices provide instructional objectives that meet the needs of the learner, society and the subject matter in an integrated fashion. He recognized the learner's need to be engaged in a continuous process of solving meaningful problems through an active re-arrangement and reconstruction of experience. He theorized that all education needs to begin with the child's impulse toward action and that the function of the school was to help the child organize this action. Brosio (1972, pp. 45, 46) in synthesizing Dewey's concept of community said "The child needs the school in order to convert raw occurence into a composed tale of meaning. . . . The child is the curriculum, and pedagogy is geared to helping him solve individual, peer, scientific, and finally societal

problems."

This pedagogy is dependent upon the use of the scientific method of inquiry in a setting which recognizes the school experience as a dimension of the larger community. The integrated use of the disciplines as organizing tools assist the learner in solving real problems which have personal meaning.

Content from the disciplines should not however, be used to fill children, like empty vessels, with adult knowledge. Rather, the curriculum must provide a continuous process which allows the learner to reconstruct this knowledge and society in a manner which is relevant to him/her.

> A curriculum which acknowledges the social responsibilities of education must present situations where problems are relevant to the problems of living together, and where observation and information are calculated to develop social insight and interest (Dewey, 1916, p. 352).

Theory is critical, according to Dewey, not only because it can produce a balanced curriculum, but because it allows hypotheses to be formulated and tested within the context of the educative process. Furthermore, these hypotheses must be applied to problems evident in the world of concrete experience (Dewey, 1929).

Educational objectives must, then, be derived from problems of contemporary life and the nature and needs of the learners, in addition to a body of subject matter. The basic work of Dewey and his concept of community, and Piaget and his stage theory of cognitive development, contribute to a theoretical rationale for the development of objectives in community-based global education.

A Discussion of Selected Learning Theory

Piaget's theory about the nature of the learner now has greater implications for secondary curriculum as basic research provides us with some answers regarding stages of cognitive development. Piaget identified these stages as being sequential and he ascribed general age brackets for each stage. While the stages themselves and their order have been internationally researched and accepted, researchers continue to uncover new information about the ages of stage attainment. This is especially true in determining the age of attainment of the stage of formal operational thought. Piaget himself set this age at about eleven to fifteen.

However, current research on hypothetico-deductive reasoning showed that a majority of college freshmen and high school students may be concrete operational thinkers, not formal operational thinkers (Cowan, 1978; Kolodiy, 1975; Sayre and Bell, 1975). Some studies indicate that

up to 95 percent of these students have not advanced to formal operational thought (Phillips, 1980, pp. 8-9). More relevant to the field of global education is the suggestion by Adelson that the adolescent's achievement of hypothetico-deductive reasoning that Piaget and other theorists have demonstrated in advance modes of reasoning in relation to scientific problems, is not generally evidenced in the social and philosophical reasoning of adolescents until a much later age (Adelson, 1982).

Renner and Lawson (1975) attributed this delayed attainment to the inappropriate curriculum offered at the high school level. Most instruction in the secondary schools is based on the figurative mode of teaching. This consists of the transfer and recording of information and allows little interaction of the student with the content. It is based on abstractions, rather than reality.

By contrast, operational learning is based on student interaction with concrete objects and experiences in order to abstract and develop concepts. It is based on meaning within the learning situation, not memorization. It promotes linkages between concepts and symbols in the context of active learning (Elkind, 1976; Piaget, 1976).

The essence of knowledge is derived from an individual's interaction with physical objects through the process of experience (Piaget, 1964). Furthermore, researchers are

showing that this is true, not only for those in the concrete operational stage and below, but also for those who have attained formal operational thinking (Cantu and Herron, 1978; Sheehan, 1970; Lawson and Blake, 1976).

Sanders (1978) provided a description of concrete and formal operational thinkers:

1. Characteristics of the Concrete Thinker:
   a. His/her understanding is contingent upon reference to familiar actions, objects, and observable properties.
   b. He/she makes use of the reasoning patterns of class inclusion, conservation reasoning and serial ordering.
   c. He/she may use formal reasoning patterns in a partial or unsystematic manner, but only in familiar contexts.
   d. He/she requires step-by-step instructions to master a lengthy procedure.
   e. He/she is not aware of his/her own reasoning, of the inconsistencies in the statements he/she makes, of the contradictions of these statements with other known facts.
2. Characteristics of the Formal Thinker
   a. He/she can reason with concepts, relationships, abstract properties, axioms, and

theories.

b. He/she uses symbols to express ideas.

c. He/she can use combinational, propositional, and probabilistic reasoning.

d. He/she can identify variables and discover their relationships by investigations requiring control of the variables.

e. He/she can plan lengthy procedures given certain goals and resources.

f. He/she is aware and critical of his/her own reasoning and actively checks on the validity of his/her conclusions by appealing to other known information. (Sanders, 1978, pp. 286-287).

It would appear then, that Piagetian theory can provide a firm base for needed reform in the curriculum; it offers a rich source for objectives related to the needs of the learner in the development of curriculum for global education. Furthermore, it has special application in the development of a community focus for global education. Familiar, and/or readily available resources within the community can be used to plan active learning experiences to teach the abstract global concepts of change, communication, interdependence, conflict, diversity, etc.

Klausmeier (1980) has explored the application of

theory related to the learning and teaching of process concepts, those concepts that can be performed as well as understood. For example, "observing," "inferring," and "predicting" are process concepts. He has developed a generic model of arranging instruction and has applied this theory of cognitive learning and development in on-going educational environments.

Klausmeier's experimental efforts to apply a theory of conceptual learning to the classroom setting warrant investigation by those developing theoretical models of concept development in global education. Of particular interest would be the process concept of "cooperating," an operationalized aspect of the concept of interdependence.

Klausmeier's research explored the mental operations necessary for attaining concepts at each of four successively higher levels. In a longitudinal study of cognitive development during the pre-collegiate school years, it appeared that the construct of four levels of attaining the same concept was verified and that the mental operations necessary for attaining each level were reliably identified (Klausmeier, et al., 1978). These successive levels of concept attainment were designated as "concrete," "identity," "classificatory," and "formal."

Although not all concepts can be attained at all four successive levels, all concepts can be attained at one,

two, or three levels, according to Klausmeier (1980). The concepts which can be attained at the four successive levels are those which a) have more than one example; b) have observable three-dimensional examples or examples which can be symbolically expressed; and c) are defined in terms of intrinsic attributes, functional attributes, or both.

Within this hierarchy of successive levels of concept attainment, Klausmeier identifies the successive mental operations the individual must perform to indicate concept attainment at a given level. This progressive deeping of conceptual understanding is used to interpret new situations, understand principles and hierarchical relationships, and solve problems.

According to Klausmeier, his theory of concept development differs from that of Piaget's (1970) in that Piaget proposed different psychological structures and different operations for the successive stages of concept learning in addition to large observable changes between the successive stages. He suggests that the deeper understanding and greater use of the same concepts at the successively higher levels is more a product of learning and experience than of maturation. He further proposes that the emergence and neural integration of new psychological structures as proposed by Piaget does not appear to explain this conceptual

learning (Klausmeier, 1980).

Concepts, as the building blocks of cognitive learning and development, enable one to understand and relate many otherwise discrete phenomena. The class of learning outcomes called concepts may be considered both mental constructs of individuals and as societally accepted meanings of words and word phrases shared by persons who have similar environmental backgrounds and who speak the same language (Klausmeiere, 1980).

They also provide the basis for vertical and horizontal transfer. As individuals attain the successively higher levels of a given concept, vertical transfer occurs. In concepts that are described by all four levels identified by Klausmeier, attainment of each level is a prerequisite for the next.

Horizontal transfer for concept extension and use occurs in the four directions indicated in Table 1.

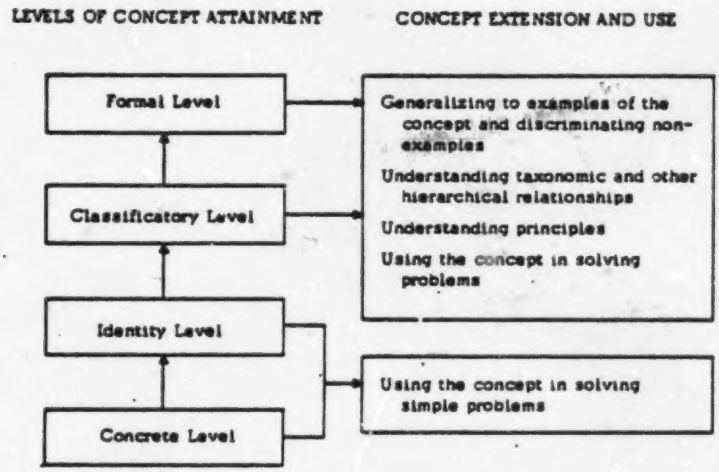
Insert Table 1 about here

As horizontal transfer occurs, based on learning and experience, in addition to maturation, the meaning of the concept itself is extended (Klausmeier, 1980).

Klausmeier proposed a comprehensive model of transfer from one learning situation to another. It specified that

TABLE 1

LEVELS OF CONCEPT ATTAINMENT AND USE


LEVELS OF CONCEPT ATTAINMENT
CONCEPT EXTENSION AND USE
Formal Level
Classificatory Level
Identity Level
Concrete Level
Generalizing to examples of the concept and discriminating non-examples
Understanding taxonomic and other hierarchical relationships
Understanding principles
Using the concept in solving problems
Using the concept in solving simple problems

Klausmeier, 1980, page 34.

abilities and information transfer from one situation to the next. The abilities include the ability to carry out all mental operations involved in learning concepts, learning principles, and problem-solving techniques, including the ability to generalize across modalities and situational contexts. It was theorized that all products of learning in the cognitive domain, and in the affective domain can be accounted for in this model, in addition to vertical and horizontal transfer.

Klausmeier hypothesized that individuals from infancy to adolescence vary in the mental operations they are capable of performing because of the interaction of maturational factors and learning opportunities. Maturation and practice are the basic elements responsible for increasing the individual's ability to perform the higher mental operations that are necessary for attaining the successively higher levels of a concept and for forming more complete and inclusive conceptual cores. The achievement of physical maturation does not, however, terminate the emergence and refinement of the higher mental operations nor the development of the ability to employ operations on more content and more complex content. Experience continues to be the determining factor.

Ausubel (1963, 1966, 1968) described the cognitive structure of the individual at any point in time as

including everything the individual has learned. The products, or outcomes, of learning may be categorized as perceptual information; verbal information and skills; concepts; principles, structures of knowledge, including taxonomies; and problem-solving skills, including strategies of learning and remembering.

These products are initially learned, represented, organized and stored internally in the form of images, symbols, meanings and as relationships among these. Learning and maturation cause the cognition structure of the individual to change from birth onward. The simplest perceptions and the most abstract ideas are included in this cognitive structure.

Learning in the cognitive domain produces knowledge of concepts, principles, structures of knowledge, including taxonomies and other hierarchies, and problem-solving. As these outcomes develop to progressively higher levels, a more complete understanding of the physical and social world results along with increasing independence of learning (Klausmeier, 1980).

It is hypothesized that using the community to teach concepts central to global education, such as interdependence, will promote concept learning in both a vertical and horizontal direction, according to Klausmeier's theory. It is further hypothesized that "cooperation," an

operationalized process aspect of interdependence can be analyzed with this model to explore its relationship to the concept from which it is derived. It is felt that using concept exemplars and non-exemplars from students' personal experiences in the classroom and the community will increase concept learning.

Cooperative Learning Theory

Piaget pointed out the vital role of social cooperation in the intellectual development of the learner and in laying the foundation for reflective thinking. He noted that,

> . . . it is cooperation that is most apt to encourage real exchange of thought and discussion, which is to say, all the forms of behavior capable of developing the critical attitude of mind, objectivity and discursive reflection.

Moreover, instead of "submission to external constraint" the collaboration and self-discipline derived through such classroom activity is "morality in action, just as 'active' work is intelligence as act" (1970, p. 180). This cognitive analysis of social cooperation by Piaget provides a strongly supportive theoretical backdrop for the technical discussion of cooperative learning theory which follows.

Intergroup relations have been the subject of study for more than half a century. As a result, research on

cross-ethnic/group relationships has come into prominence in the educational field in recent years with regard to school desegregation and mainstreaming. Both these areas of education have been based on the assumption that physical proximity between majority and minority students will facilitate positive relationships and attitudes among the students. This assumption has been much disputed among social scientists and the dispute has been fostered by the lack of theoretical models and apparently inconsistent research findings (Johnson, et al., 1983).

Cooperative learning research appears to not only provide some answers related to desegregation and mainstreaming in special education, but to offer the field of global education information about the process concepts of cooperating and perspective-taking and their implementation in the classroom. Additionally, this theory relates very directly to the broad concept of interdependence which is central to global education.

Early studies seemed to indicate that interaction within a cooperative context is a major determinant of whether cross-ethnic contact produced positive attitudes and relationships. It was determined that it was the nature of the contact, and not the frequency which promotes favorable intergroup attitudes. Several early reviews of the literature seemed to concur that certain conditions of

that contact must exist in order for improvement of intergroup relations to occur. The conditions included:

1) positive interdependence (i.e., cooperation)

2) equal status contact

3) social norms favoring equalitarian cross-ethnic contact

4) attributes of group members that contradict prevailing stereotypes

5) contact that promotes interaction on a personal as well as a task level

Furthermore, contact which met these conditions was found to be more effective in changing behavior and attitudes than were such alternate experiences as exposure to correct information or persuasive communications (Johnson, et al., 1983).

Lewin's (1935) theory of motivation postulated that as a state of tension occurs within the individual, the individual is motivated to move toward the accomplishment of desired goals. This theory became the basis for Deutch (1949, 1962) in his formulation of a subsequent theory of how tension systems of different people might interact.

The result was that Deutch conceptualized three types of goal structures: cooperative, competitive, and individualistic. A cooperative social situation exists when the goals of individuals are linked in such a way that

there is a positive correlation among their goal attainments. In its purest form, an individual can attain his or her goal only if the others in the interaction can attain theirs. The individual is therefore motivated to seek a goal which is mutually beneficial to the others involved in cooperative activity.

Deutch defined a competitive social situation as one which exists when individuals are linked in such a way that there is negative correlation among their goal attainments. Thus, an individual can attain his or her goal only if others in the interaction cannot attain their goals. Therefore, the individual is motivated to seek a goal that is personally beneficial but detrimental to the others in the interaction.

The final goal structure in Deutch's theory was the individualistic situation where there is no correlation among the goal attainments of the individuals. There is no goal interaction among the participants in this social situation. As a result, each person seeks a personally beneficial goal without regard for others' goal achievements.

The fourth goal structure is one developed at Johns Hopkins University (Slavin, 1980). This is a composit of both the competitive and the cooperative goal structures above. The system of interaction consists of a cooperative

goal structure within a small group of participants combined with between-group competition.

In their discussion of the cognitive prerequisites for working cooperatively in groups, Johnson and Johnson (1975) identified the need to be able to recognize that outcomes in a given situation are a result of "mutual causation." One must perceive relationships between decisions, actions and resulting consequences. Madsen described this mutual causation awareness as "interdependency" and, based on his research, concludes that this trait develops after age five but before age ten (Nelson and Kagan, 1972).

The appropriate use of classroom goal structures appears to be a critical environmental factor leading to successful learning (Johnson and Johnson, 1978). Cooperatively structured learning leads to greater mastery, retention, and transfer of concepts, rules and principles, according to Johnson and Johnson (1981). Reviews of the literature on cooperative learning by Sharan (1980) and Slavin (1980) support these findings. In addition, these reviews concluded that cooperative learning strategies significantly improve intergroup relations in ethnically mixed classrooms.

This may be a factor of the greater cognitive and emotional perspective taking that is associated with

cooperative learning rather than with either individualistic or competitive goal structures (Bridgeman, 1977; Johnson, et al., 1976). Social perspective taking is defined by Johnson and Johnson as the ability to understand how a situation appears to another person and how that person is reacting cognitively and emotionally to the situation (Johnson and Johnson, 1978). Furthermore, an actualized definition of interdependence is based on a person's ability to see another's point of view.

A recent meta-analysis of the research related to social interdependence and cooperative learning provided additional support for this developing theory. Through this meta-analysis of research conducted between 1944 and 1982, Johnson, Johnson and Maruyama (1983) identified a key factor in determining whether or not desegregation and mainstreaming promote positive relationships among heterogeneous students. This key factor appears to be whether students cooperate, compete, or work independently in structured classroom settings.

The results of the meta-analysis of 98 studies indicate that

a) cooperation without intergroup competition promotes greater interpersonal attraction among both heterogeneous and homogeneous individuals than do interpersonal competition, individualistic efforts, and cooperation with

intergroup competition;

b) cooperation with intergroup competition promotes greater interpersonal attraction among participants than does interpersonal competition or individualistic efforts;

c) there tends to be no significant difference between interpersonal competition and individualistic efforts in promoting interpersonal attraction among participants (Johnson, et al., 1983).

In reviewing the literature of the field, Johnson and his colleagues (1983) have developed a general theoretical framework within which to organize existing research and to direct future research. This theory describes the process through which heterogeneous individuals make social judgments about and build relationships with each other.

According to this theory, physical proximity is a necessary but not sufficient condition for a reduction of prejudice and the building of positive attitudes and relationships between heterogeneous peers. The initial prejudices are either strengthened or replaced by acceptance and positive attitudes depending on the conditions of the cross-group interaction.

The process of making social judgments about heterogeneous peers is described in this theory as follows:

1) Preinteractive negative attitudes exist between

students of differing ethnic groups and between handicapped and non-handicapped students.

2) A process of acceptance or rejection takes place in the interaction depending on whether there is a context of positive, negative, or no goal interdependence. A cooperative context, rather than a competitive or individualistic one, promotes greater interpersonal attraction among heterogeneous individuals.

3) A process of acceptance results from interaction within a context of positive goal interdependence. This leads to a) promotive interaction and feelings of psychological acceptance and safety; b) accurate perspective-taking; c) differentiated, dynamic, realistic views of collaborators and oneself; d) feelings of success; e) positive cathexis toward collaborators and oneself; and f) expectations of rewarding future interaction with collaborators, regardless of their heterogeneity.

4) The process of rejection results from interaction with a context of negative or no goal interdependence. Negative goal interdependence promotes oppositional interaction, and no goal interdependence results in no interaction with peers. Both lead to a) feelings of rejection; b) inaccurate perspective-taking; c) monopolistic, static, and stereotyped views of classmates; d) feelings of failure; e) negative cathexis toward classmates and oneself;

and f) expectations of distasteful and unpleasant future interaction with heterogeneous classmates.

5) The process of acceptance or rejection may be repeated with further interaction. See Table 2 (Johnson, et al., 1983, p. 9).

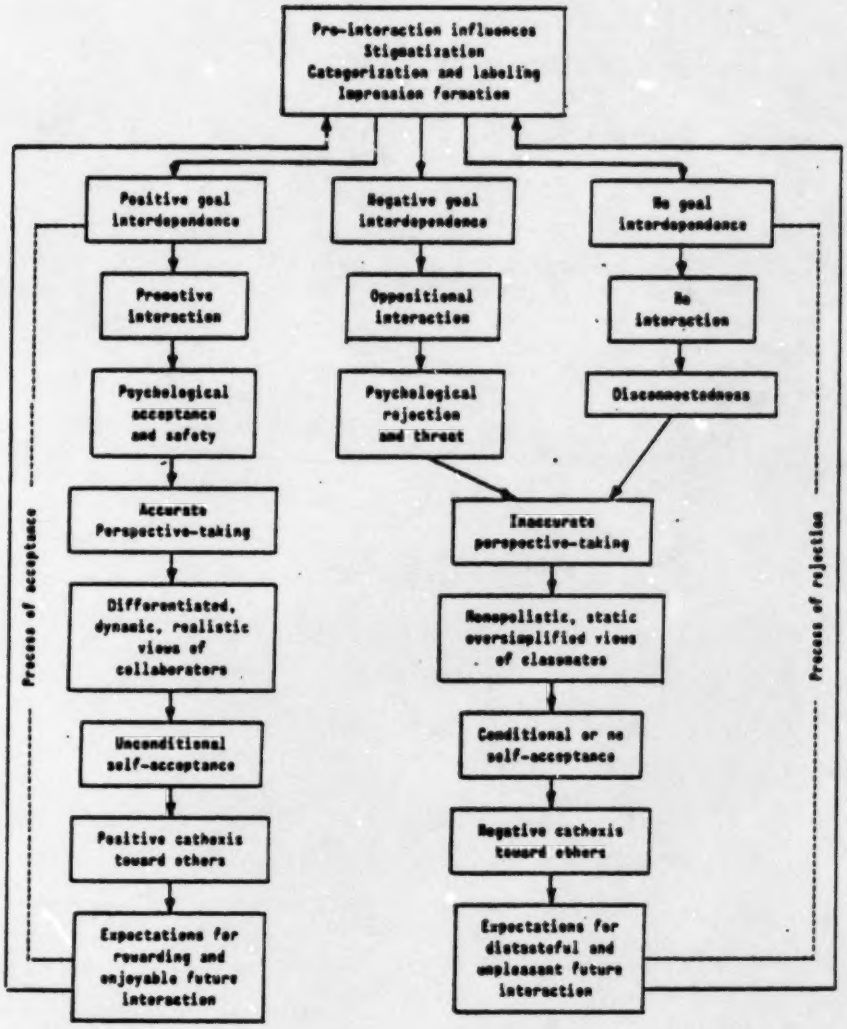
Insert Table 2 about here

An aspect of this theoretical model and the research supporting it that is particularly relevant to global education is the perspective-taking dimension. The ability to take another's perspective is a potentially important influence on the building of constructive relationships in heterogeneous groups. Social perspective-taking involves the ability of an individual to understand how a situation appears to another person and how that person is reacting cognitively and emotionally to the situation. Egocentricism is the opposite of perspective-taking ability. This is the inability to acknowledge or recognize other points of view and to recognize the limitations of one's own view.

Several studies have found that an ability to cooperate is positively related to the ability to take the emotional perspective of others (Johnson, et al., 1983). Competitiveness, however, has been found to be positively related to egocentrism. Furthermore, cooperative learning

TABLE 2

SOCIAL JUDGMENT PROCESS



Johnson, et al, 1983, page 9.

BEST COPY AVAILABLE

experiences have been found to promote greater cognitive and emotional perspective-taking abilities than either competitive or individualistic learning experiences (Johnson, et al., 1983).

It should be clear from the above discussion of the research on cooperative learning that this theoretical framework has much to offer the field of global education. The notions of interdependence, cooperation, and perspective-taking are central to both conceptualizations. Furthermore, cooperative learning shows strong evidence of dealing positively with the condition of diversity, another major concept in global education.

An interesting study by Jongewaard (1981) offers a beginning model for building a theoretical bridge between cooperative learning and global education. Jongewaard attempted to actualize the concept of interdependence, a concept central to global education, as an instructional strategy in sixth grade social studies classes, in addition to teaching about this concept. A sequence of learning materials was selected to engage students in learning about the concept of interdependence. These materials were chosen based on criteria to eliminate stereotypes and emphasize depth of understanding.

In addition, students were organized for learning according to the classroom goal structures of individualistic

and cooperative behavior (Deutch, 1962; Johnson and Johnson, 1975). The third and fourth goal structures, competition, and cooperation with intergroup competition, were not variables in this study.

In the individualistic approach, each student works toward the achievement of the learning goal independently of the other students; in the cooperative model, students can only achieve the goal if others in their group also achieve the goal. Thus, a condition of mutual dependence, or interdependence, exists.

The researcher concluded that cooperative goal structures are an effective teaching strategy for global education activities and that cooperative, interdependent learning experiences enhance the students' understanding of the concept itself. He furthermore determined that a non-textbook, activity-oriented series of coordinated lessons was an effective teaching strategy.

According to Denton (1970), epistemology and learning theory are historically and logically consistent with education defined in sociological-nomothetic terms. Therefore, both have been the basis of rationales and designs for continued research in learning and curriculum theory. Thus there has been an historical and logical precedence in opposition to the personal coefficient in knowledge and in the process of coming to know. Denton (1979, p. 60) theorized that, "When the body, which is the origin,

ultimate referent, and instrument of all communication is repressed, education is likewise repressed in that it becomes limited to a limited range of language concepts completely cut off from the origins and vitality of those concepts." He referred to this as the "anti-body bias" of psychologists, behaviorists, philosophers, and educators.

Cooperative learning does not appear to have emerged from this bias. In any case, its current forms exemplify the process of active involvement in learning which has intrinsic continuity of means and ends. As such, it seems to be a major breakthrough in learning theory which has the support of a body of educational theory.

Discussion

In the final analysis, it would appear that the community-based approach to global education, by definition has the greatest potential for involving students in experiential learning that will involve the total nature of the child, cognitive, affective, and psychomotor, as opposed to performance of assumed learning. Furthermore, of all the approaches in the field of global education, it seems to have the greatest potential for providing educational objectives based on the Tyler-Taba rationale of the ecological relationship between the learner, the society, and the subject matter. The concept of using the community as a source of educational objectives was recommended

by several major educational reports in the 1970's, based on this theory of meaningful learning versus performance. A community-based global education program should incorporate rationales from these reports into its own.

Key assumptions derived from the proceeding conceptualization are the following:

1) The best curriculum plan for implementing a global perspective is one which reflects an ecological relationship between the learner, the subject matter, and the society. Hanvey's conceptualization appears to fit this theoretical model.

2) Curriculum which is activity-oriented in a context meaningful to the student and which also teaches concepts generic to the field will promote learning as opposed to performance and will motivate more conceptual learning in a vertical and horizontal direction.

3) The more the basic concepts from the field can be operationalized as a process concept, such as "cooperating" in cooperative learning strategies, the greater will be the vertical and horizontal transfer of conceptual learning.

4) Concepts generic to the field can be analyzed to determine their characteristics at the four successive levels of concept learning according to Klausmeier's theoretical model.

5) These concept-level characteristics can be matched to curricular activities in order to develop a hierarchical model for teaching/learning the selected concept. This would provide a framework for organizing the curricular materials in the field.

6) This hierarchical model for teaching/learning concepts in global education would proceed from concrete experiential learning with referents in the child's own life in the community to more abstract referents, less observable through first-hand experience.

7) Perspective-taking ability, a process concept central to global education, can be operationalized and enhanced through the use of cooperative goal structures in the classroom.

8) The concept of diversity can be operationalized using cooperative goal structures in the classroom, in that it is assumed that the concept of diversity is related to perspective-taking.

9) Cooperative goal structures can provide a theoretical framework for operationalizing the construct of cooperation in any group work involving adults: a) teacher teams; b) curriculum planning teams; c) teacher training; d) leadership training; and e) organizational planning.

10) Any plan to implement global education curriculum/programs/perspectives must take into account the ecological

nature of the school and the research on school change and innovation in order to meet success.

APPENDICES

A THEORETICAL CONTINUUM OF GLOBAL EDUCATION APPROACHES

International Education	Global Education	Global Perspectives Education	Community-Based Approach

Cultural Transmission	Responsive to Growth and Change
Abstract	Concrete
Impersonal	Personal
Passive	Active
Individual Learning	Individual and Cooperative Group Learning
Content and Process Generic to Scholarly Disciplines	Content and Process Generic to the Nature of the Child In Society
Extrinsic Motivation	Intrinsic Motivation
Emphasis on Differences Among Peoples, Nations	Emphasis on Similarities Among Human Beings
"Structure of Knowledge" Theoretical Base	"Experience as the Basis of Knowledge" Theoretical Base
Focus on Retention of Information	Focus on Problem-solving

NOTE: All models are an abstraction of reality. There may be considerable overlap in certain aspects of the approaches. Furthermore, this model is in process. Feel free to add your perspective and expertise.

Doni Kwolek Kobus, 1983

TRANSFER THEORY

Thorndike proposed a major break from the theory of formal discipline in his theory of "identical elements." This theory held that positive transfer occurred to the extent that the new task contained elements identical to those in the original learning task. Soon afterward, Judd formulated a "generalization" hypothesis, which held that it was not identical elements that transferred, but rather generalized ideas about how to solve problems. That is, knowledge about driving a bicycle would help in learning to drive a car (if at all) because of general ideas about steering, starting, stopping, and keeping on the right side of the road—not because there were identical elements in bicycle and car driving.

Today, we have no widely accepted theory of transfer as a total, rigorous system. Rather, we have knowledge about the conditions that seem to maximize positive transfer, and we are content to work toward establishing those conditions in school learning. The following list summarizes, in the main, the conditions we should seek to maintain for a higher degree of transfer. The items are all closely interrelated, and are not at all discrete as their presentation here might lead you to believe.

1. The curriculum should contain a high percentage of activities that are very lifelike, not phoney nor unconvincingly contrived.

2. Students should understand the meaning and operation of what they are asked to learn.

3. The learning activities should provide practice in a variety of contexts. For example, multiplication learning should allow students to practice with real objects of various kinds, with abaci, with paper and pencil, mentally with eyes closed, as a rapid means of addition, and so on.

4. Students should comprehend the purpose of everything they are asked to learn—the possible uses, newer learnings made possible, and so forth.

5. Students should have numerous opportunities to directly apply what they have learned to realistic concerns.

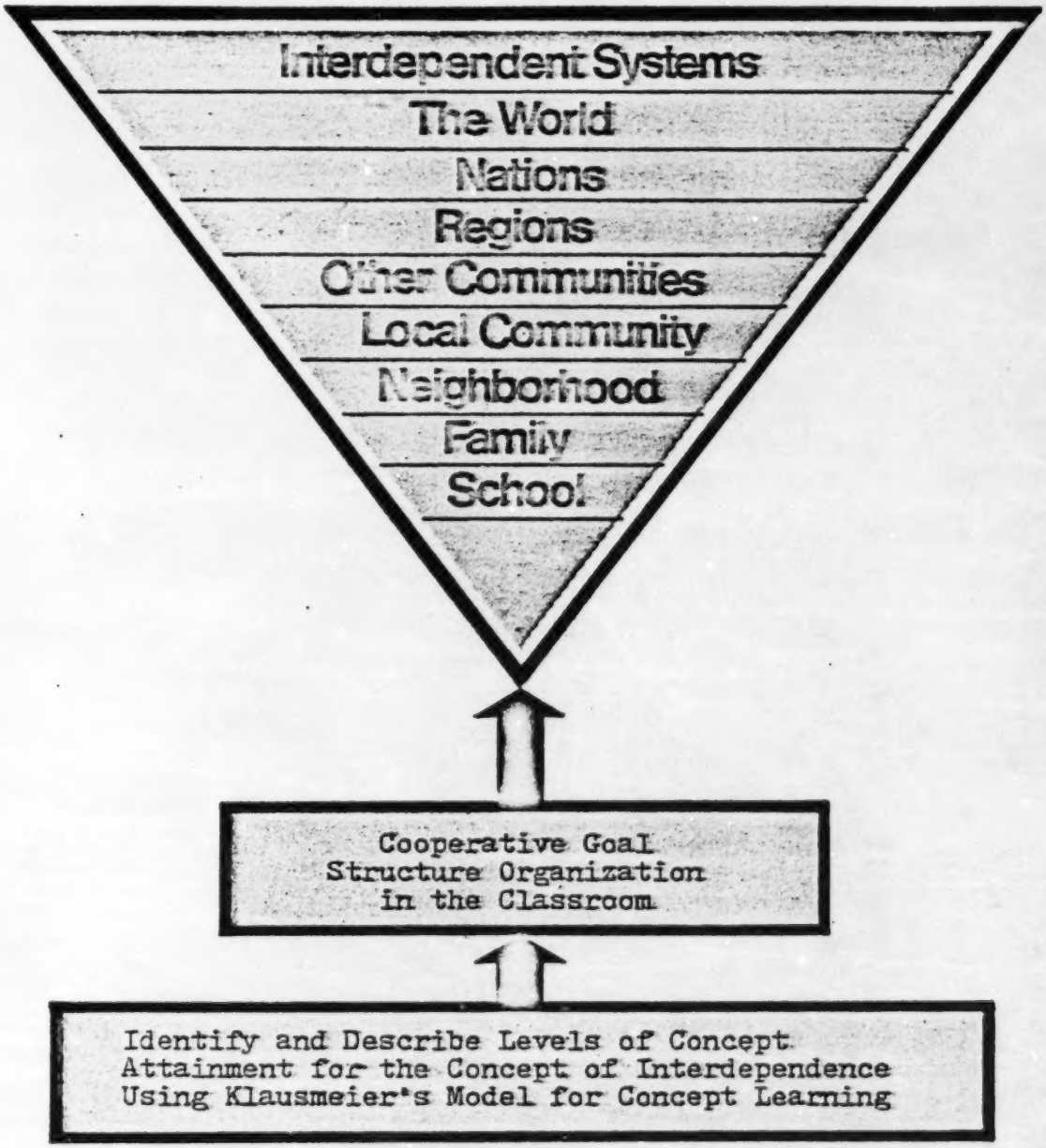
6. Teachers should endeavor to relate or correlate each discipline with the other—music and art with history, for example—so that transfer from one area to another can be enhanced.

C. M. Charles, Educational Psychology, the Instructional Endeavor, 1976, page 354.

A Model for Teaching the Concept of Interdependence Through Cooperative Goal Structures, Using a Community-Based Approach to Global Education

---

Vertical and Horizontal Transfer of Conceptual Learning



Doni Kwolek Kobus
Stockton, CA. 1983

REFERENCES

References

Adelson, Joseph. Rites of passage. American Educator, Summer, 1982, 6:2, 6-13, 31-33, 46.

Ausubel, D.P. The Psychology of Meaningful Verbal Learning. New York: Grune & Stratton, 1963.

_____. Meaningful reception and the acquisition of concepts, in H.J. Klausmeier & C. W. Harris, (Eds.), Analyses of Concept Learning, 1966, New York: Academia Press, 157-175.

_____. Educational Psychology: A Cognitive View. New York: Holt, Rinehart & Winston, 1968.

Becker, James. Conceptual issues in global education. Paper presented to the National Conference on Professional Priorities: Shaping the Future of Global Education, Easton, MD., May, 1982.

Bridgeman, D. Cooperative, interdependent learning and its enhancement of role-taking in fifth grade students. Paper presented at the American Psychological Association Convention, San Francisco, August, 1977.

Brosio, Richard A. The Relationship of Dewey's Pedagogy to His Concept of Community. Ann Arbor: University of Michigan, 1972.

Bruner, Jerome. The process of education revisited. Phi Delta Kappan, September, 1971, LIII:1, 18-21.

Cantu, L., and J. Herron. Concrete and formal Piagetian stages and science concept attainment. Journal of Research in Science Teaching, 1978, 15, 135-143.

Cowan, Philip. Piaget With Feeling. New York: Holt, Rinehart and Winston, 1978.

Deutsch, M. An experimental study of the effects of cooperation and competition upon group process. Human Relations, 2 1949, 199-232.

_____. Cooperation and trust: some theoretical notes, in M. R. Jones (Ed.), Nebraska Symposium on Motivation, Lincoln: University of Nebraska Press, 1962, 275-319.

Denton, David E. The Language of Ordinary Experience, A Study in the Philosophy of Education. New York: Philosophical Library, Inc., 1970.

Dewey, John. The Child and the Curriculum. Chicago: University of Chicago Press, 1902.

_____. Democracy and Education, New York: The Free Press, 1916.

_____. The Sources of a Science of Education. New York: Liveright, 1929.

Elkind, D. Child Development and Education: A Piagetian Perspective. New York: Oxford University Press, 1976.

Flavell, John. The Developmental Psychology of Jean Piaget. New York: Van Nostrand, 1963.

Goodlad, John. A study of schooling: some findings and hypotheses. Phi Delta Kappan, March, 1983, 64, 465-470.

_____. A study of schooling: some implications for school improvement. Phi Delta Kappan, April, 1983, 64, 552-558.

Hanvey, Robert G. An Attainable Global Perspective. New York: Global Perspectives in Education, Inc., 1979.

_____, and Jon Rye Kinghorn. Citizenship education, in Community International Fellows Program, Building American Competence in World Affairs Through Coordinated Efforts, Dayton, Ohio: Kettering Foundation, 1982, 9-17.

Johnson, D. W., & Johnson, R. T. Learning Together and Alone: Cooperation, Competition and Individualization. Englewood Cliffs: Prentice Hall, Inc., 1975.

_____, and _____. Cooperative, competitive and individualistic learning. Journal of Research and Development in Education, 1978, 12, 1.

_____, and others. The effects of cooperative, competitive, and individualistic goal structures on achievement: a meta-analysis. Psychological Bulletin, 1981.

_____, Roger Johnson, and Geoffrey Maruyama. Interdependence and interpersonal attraction among heterogeneous and homogeneous individuals: a theoretical formulation and a meta-analysis of the research. Review of Educational Research, Spring, 1983, 53, 5-54.

Jongewaard, Steven M. Learning the Concept of Interdependence Using Selected Curricular Materials and/or Cooperative Goal Structures. University of Minnesota: unpublished doctoral dissertation, 1981.

King, David C. Global education. ASCD Curriculum Update, October, 1980.

_____, & others. Education for a world in change: a working handbook for global perspectives. Intercom 84/85, Center for Global Perspectives of the New York Friends Groups, Inc., 1976.

Klausmeier, Herbert J., and Patricia S. Allen. Cognitive Development of Children and Youth. New York: Academic Press, 1978.

_____. Learning and Teaching Concepts, A Strategy for Testing Applications of Theory. New York: Academic Press, 1980.

Kolodiy, George. The cognitive development of high school and college science students. Journal of College Science Teaching, 1975, 5, 20-21.

Lawson, A., and A. Blake. Concrete and formal thinking abilities in high school biology students as measured by three separate instruments. Journal of Research in Science Teaching, 1976, 13, 227-235.

Lewin, K. A Dynamic Theory of Personality. New York; McGraw-Hill, 1935.

Naisbett, John. Megatrends. New York; Warner Books, Inc., 1982.

Nelson, L. L., & Kagan, S. Competition: the star spangled scramble. Psychology Today, September, 1972, 6, 53.

Phillips, Beverly R., & others. Piagetian theory: implitions for teaching and curriculum in the junior high school. Stockton: The Center for the Development of Economics Education, University of the Pacific, 1980. Unpublished manuscript.

Piaget, J. The Child and Reality. New York: Grossman Publishers, 1976.

_____. Development and learning. Journal of Research in Science Teaching, 1964, 2, 176-186.

_____. Piaget's theory, in P. H. Messen (Ed.), Carmichael's Manual of Child Psychology, 1:3rd ed. New York: Wiley, 1970.

_____. Science of Education and the Psychology of the Child. (New York: Orion, 1970.

Renner, John W., and others. Research, Teaching, and Learning with the Piaget Model. Norman: University of Oklahoma Press, 1976.

Sanders, S. G. Importance of Piaget learning theory for the college teacher. Journal of College Science Teaching, 1978, 9, 283-287.

Sayre, Steve A., and Daniel W. Bell. Piagetian development in students. Journal of College Science Teaching, 1975, 7, 283-287.

Sharon, Shlomo. Cooperative learning in small groups; recent methods and effects on achievement, attitudes, and ethnic relations. Review of Educational Research, 1980, 50, 241-271.

Sheehan, D. The effectiveness of concrete and formal instructional procedures. Dissertation Abstracts, 1970, 31, 2748-A.

Slavin, Robert E. Cooperative learning. Review of Educational Research, 1980, 50, 315-342.

Tanner, Daniel and Laurel N. Tanner. Curriculum Development, Theory into Practice. New York: Macmillan Publishing Co., 1980.

Woyach, Robert B., and Richard C. Remy, Global studies through local eyes: experience with a community-based approach to global education. Paper given at

the National Conference on Professional Priorities: Shaping the Future of Global Education, Easton, MD., May, 1982.